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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,894	04/18/2001	Dale R. Adams	60472.301402	8362

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EXAMINER

DESIR, JEAN WICEL

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/837,894

Applicant(s)

ADAMS ET AL.

Examiner

Jean W. Désir

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/4/01 (Pre-Amendment).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,9,10,13,18-23,27,28 and 30-32 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 11, 12, 14-17, 24-26, 29-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2614

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 30, 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasahara et al (US 5,838,381).

Claim 30:

Kasahara discloses:

“an interlaced signal source”, see Fig. 2 items 8, 9;

“a buffer having an input coupled to an output of the interlaced signal source”,
see Fig. 2 item 10;

“a deinterlacer having an input coupled to an output of the buffer”, see Fig. 2
items 11, 12 which play the role of the deinterlacer as claimed, see also col. 4 lines 25-
31;

Art Unit: 2614

“a display driver having an input coupled to an output of the deinterlacer; and a raster display having an input coupled to an output of the display driver” is inherent to Kasahara’s disclosure, because of Fig. 1 item 7 which shows a raster display unit. Claim 31 is disclosed, see Fig. 2 item 8 which shows an analog signal, see also col. 4 lines 9-10.

3. Claims 30, 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Iwaki (US 6,567,097).

Claim 30:

Iwaki discloses:

“an interlaced signal source”, see Fig. 1 item VIDEO DATA (INTERLACED DATA);

“a buffer having an input coupled to an output of the interlaced signal source”, see Fig. 1 item 101;

“a deinterlacer having an input coupled to an output of the buffer”, see Fig. 1 item 102 which plays the role of a deinterlacer as claimed, because item 102 outputs noninterlaced data, see col. 3 lines 54-55;

“a display driver having an input coupled to an output of the deinterlacer; and a raster display having an input coupled to an output of the display driver”, see Fig. 1 items CRT, LCD.

Claim 32 is disclosed, see col. 3 line 32.

Art Unit: 2614

4. Claims 27, 28, 18-23, 9-10, 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Adams et al (6,380,978).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim 27:

The claimed "a field assembly responsive to a last field, a next field, a current field and progressive source phase and operative to develop a progressive output frame" is disclosed, see Adams at Fig. 6 item 150;

the claimed "a source detection module responsive to last next and current fields and operative to develop a progressive source phase and a progressive source detected" is disclosed, see Adams at Fig. 6 item 142;

the claimed "an intra-frame deinterlacer responsive to the progressive output frame and the progressive source detected and operative to develop a progressive frame output" is disclosed, see Adams at Fig. 6 item 154.

Claim 28 is disclosed, see Adams at Fig. 6 items 142, 154, col. 10 lines 46-50;

Claim 23:

The claimed "sequentially comparing adjacent pair of frames of a video sequence to detect relatively high values and relatively low values of at least one

Art Unit: 2614

frequency component of said adjacent pairs of frames" is disclosed, see Adams at col. 11 line 48 to col. 12 line 25, col. 12 lines 39-59;

the claimed "detecting source-type sequence breaks by analyzing a pattern of said relatively high and low values of at least one frequency component" is disclosed, see Adams at col. 12 lines 25-59.

Claim 18:

The claimed "deinterlacing said interlaced video stream to create a progressive video stream" is disclosed, see Adams at col. 9 lines 37-46;

the claimed "determining a confidence level with respect to said progressive video stream; and post processing said progressive video stream based upon said determined a confidence level" is disclosed, see Adams at Fig. 6 items 142, 154, 152', col. 10 lines 33-50.

Claims 19-21 are inherent to Adams' disclosure.

Claim 22 is disclosed, see Fig. 7 items 154, 156, and Fig. 10.

Claim 9:

The claimed "detecting a noise level in a video stream created by a pulldown technique" is disclosed, see col. 10 lines 42-50, col. 14 lines 39-40;

the claimed "and dynamically adjusting a threshold detection level based upon said detected noise level and said video stream" is disclosed, see Fig. 8 items 196, 194, col. 11 lines 28-58.

Claim 10:

“determining that the pulldown technique is 3:2” is disclosed, see col. 12 lines 43-59, Fig. 7 item 166;

“determining if a current field difference value is low or high” is disclosed, see col. 12 lines 26-43;

“and calculating the new threshold detection level based on the current field difference value and a plurality of prior field difference values” is disclosed, see Fig. 7 items 154, 156, Fig. 8 items 194, 196.

Claim 13:

“determining that the pulldown technique is 2:2” is disclosed, see col. 12 lines 43-59, Fig. 7 item 172;

“obtaining a first, second and third previous frequency detection value” is disclosed, see col. 11 line 59 to col. 12 line 9;

“and dynamically adjusting a threshold detection level based on the first, second and third previous frequency detection values” is disclosed, see Fig. 9 items 212, 210, col. 11 line 59 to col. 12 line 25.

5. Claims 3-6 are rejected under 35 U.S.C. 102(a) as being anticipated by Admitted Prior Art Figs. 3, 5, 6.

Claim 3:

The claimed “detecting a plurality of relatively low field difference values among a larger plurality of field difference values in a video stream created by a 3:2 pulldown

Art Unit: 2614

technique" is disclosed, see Fig. 3 where a plurality of relatively low field difference values are detected as claimed;

the claimed "and using said plurality of detecting low field difference values to estimate a noise level of said video stream" is disclosed, see Figs. 5, 6, where noise level of said video stream is estimated as claimed.

Claims 4, 5 are also disclosed by Fig. 3 because of the repetitions of the sequence.

Claim 6 is disclosed, see Difference Magnitude of Fig. 3.

6. Claims 1, 2 are rejected under 35 U.S.C. 102(a) as being anticipated by GERETS, Peter (WO 00/16561).

Claim 1:

GERETS discloses:

"sequentially comparing adjacent pairs of frame of a video sequence to detect relatively high values and relatively low values of at least one frequency component of said adjacent pair of frames", see page 13 lines 26-37, page 14 lines 14-33, where the ones "1", in the patterns 10101010..., 1010010100..., are considered as high values as claimed, and the zeros "0" are considered as low values as claimed;

"and determining that the video sequence was produced by a 3:2 pulldown technique when a repeating pattern of said adjacent pairs is high/low/high/low/low values", see page 14 lines 30-33 where the pattern is 10100... – this pattern is considered as high/low/high/low/low values as claimed.

Art Unit: 2614

Claim 2 is disclosed, see page 14 lines 22-24 where the pattern is 1010... – this pattern is considered as high/low/high/low/ as claimed.

Claim Objections

7. Claims 30-32 are objected to because in claim 30 parts d) and e) recite the same limitation “a display driver having an input coupled to an output of the deinterlacer”.

Appropriate correction is required.

Allowable Subject Matter

8. Claims 7, 8, 11, 12, 14-17, 24-26, 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jean W. Désir** whose telephone number is (703) 308-9571.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller**, can be reached at (703) 305-4795.

10. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Application/Control Number: 09/837,894
Art Unit: 2614

Page 9

Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

11. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JWD
Nov. 12, 03


MICHAEL H. LEE
PRIMARY EXAMINER